

A REVIEW OF *ACETROPIS AMERICANA* KNIGHT IN NORTH AMERICA (HEMIPTERA: MIRIDAE: STENODEMINI)

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Abstract.—*Acetropis americana* Knight, from the Willamette Valley of Oregon, is compared with *A. longirostris* Puton of eastern Europe and they are recognized as sister species. The male, female and nymphal habitus and male and female genitalia of *americana* are presented.

The genus *Acetropis* Fieber currently contains seven species placed in two subgenera (Wagner, 1967; Stys, 1973). The subgenus *Acetropis* consists of *americana* Knight, 1927; *carinata* (Herrich-Schaeffer, 1841); *gimmerthali gimmerthali* (Flor, 1860); *gimmerthali parva* Wagner, 1968; *josifovi* Wagner, 1967; *longirostris* Puton, 1875; *sinuata* Wagner, 1951. The subgenus *Paracetropis* Wagner, 1962 is monotypic, containing *atropis* Reuter, 1895. Six species are found in the western Palearctic Region while the seventh, *A. americana* Knight, is known only from western Oregon in North America (Knight, 1927; Slater and Baranowski, 1978). The Old World species are found throughout Europe (Southwood and Leston, 1959; Wagner, 1958, 1967, 1968; Wagner and Weber, 1964), including southern Russia (Kerzhner and Jaczewski, 1964), North Africa (Wagner, 1962), and Turkey (Hoberlandt, 1955). This genus occurs on grasses, but few specific host plants have been identified. Southwood and Leston (1959) report *A. gimmerthali* (Flor) on *Arrhenatherum elatius* (L.) in England, Koppányi (1965) reports *A. longirostris* Puton on *Alopercurus pratensis* (L.) in Hungary, and the senior author collected *A. carinata* (H.-S.) on *Festuca ovina* L. in the Netherlands.

Knight (1927) described *A. americana* from Corvallis, Oregon, based on specimens collected by A. C. Burrill and C. J. Drake. Drake reported that he thought the specimens were taken on "a wild oat grass" (we surmise that this grass species is *Deschampsia cespitosa* [L.] Beauv. var. *arctica* Vasey, a rare native grass of wet habitats) (females only, collected in late June). No additional specimens were collected until 1946. Other specimens were collected in 1959 on the southwest edge of Corvallis in a low, wet grassland. This site was subsequently filled and the habitat destroyed. Several specimens were also collected along the Yamhill River, near McMinnville in late May 1958. Another site was located, at Finley Wildlife Refuge, 10 miles south of Corvallis. This locality is another low, wet grassland. Nymphs and a few adults have been collected from Finley but have not been abundant enough to allow positive host plant association. This site, and the previously existing locality in Corvallis, appeared relatively undisturbed—a rarity in the Willamette Valley where most grasslands now contain introduced species.

Although Knight (1927) described the species as new, we had considered it to be

an introduced species, most likely from western Europe. It has long been known that several other stenodemines species in eastern North America are Palearctic introductions (Osborn, 1918; Knight, 1921; Slater, 1956). A number of introduced grass-feeding mirid species in the Systematic Entomology Laboratory of Oregon State University have been collected in the Willamette Valley including *Leptopterna dolabrata* (L.), *Megaloceraea recticornis* (Geoffroy), *Stenotus binotatus* (F.) and *Capsus ater* (L.) (Lattin and Oman, 1983; Lattin and Schwartz, unpubl. data). Knight compared *A. americana* with *A. carinata* (H.-S.) from western Europe. He did not consider the possibility of an accidental introduction but speculated that *americana* was the result of a natural invasion into North America from the Palearctic Region via Beringia at a time sufficiently long ago to allow the formation of a distinct species.

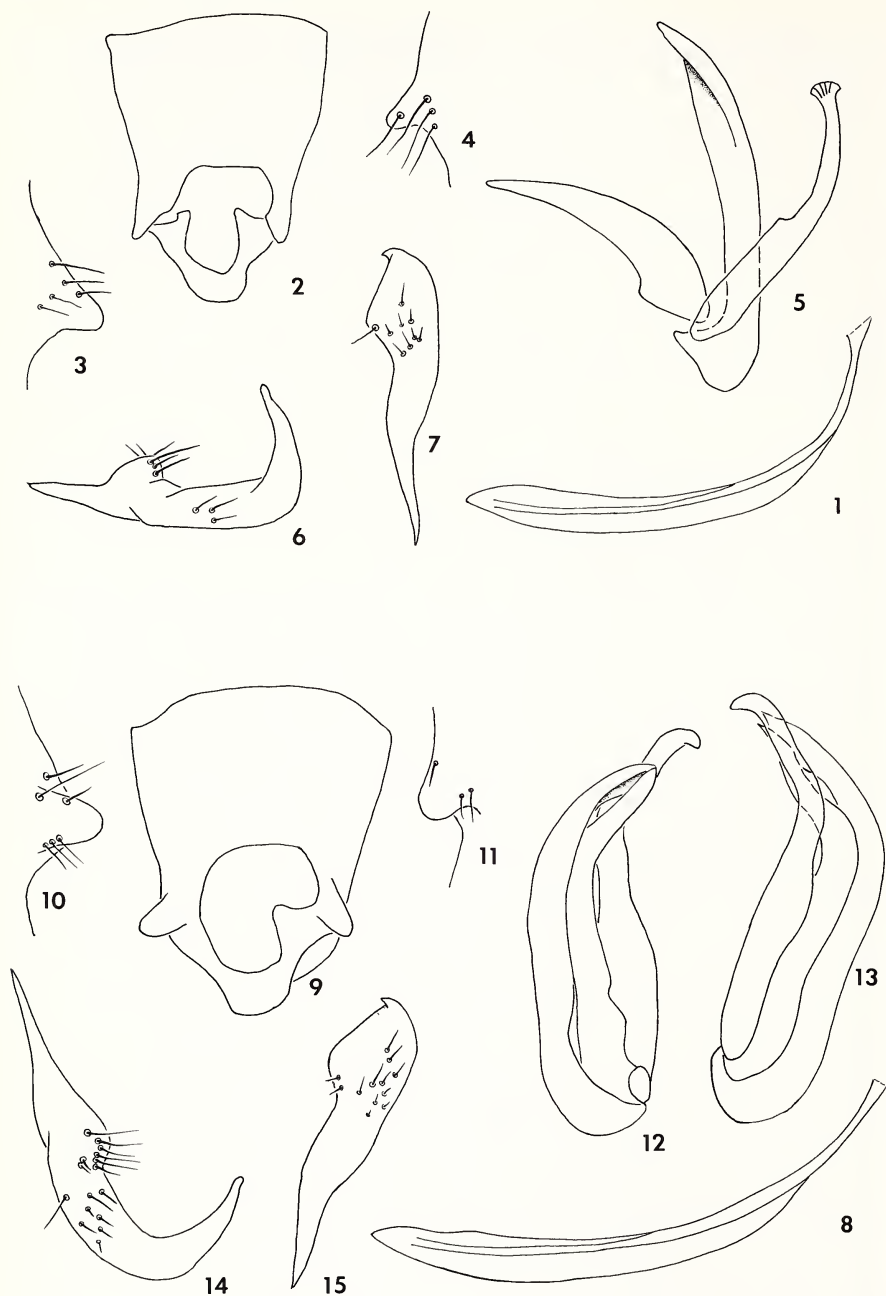
Lattin compared the Oregon material with the European species while working with Professor Dr. Rene H. Cobben at the Landbouwhogeschool in Wageningen, Netherlands in 1973–1974. The presence of three spiculae in the vesica clearly separated *americana* from *carinata* and *gimmerthali*. Professor Dr. Pavel Stys, Charles University, Prague, Czechoslovakia, kindly sent specimens of the central European species *A. longirostris* Puton. While *longirostris* is the only other species in *Acetropis* beside *americana* with three spiculae in the vesica, the two taxa did not seem conspecific and the apparent disjunction seemed real.

Schwartz has examined all species of *Acetropis* in the course of his work on the Stenodemini, including *A. americana* and *longirostris*, and reached the same conclusion; that *americana* represents the sister species of *longirostris*.

Several characters separate the two species. In females the anterior valvula of *americana* (Fig. 1) is shorter, with the distal portion stout and rounded compared to *longirostris* (Fig. 8), which is longer and more elongate and acuminate. Males of *americana* are distinguished from males of *longirostris* by the smaller genital capsule (Fig. 2) with the posteriorly directed genital tubercles (posterodorsal processes of Stys, 1973) (Figs. 3, 4), and the smaller spiculae with the dorsal one sublinear and broadly truncate apically (Fig. 5). The capsule of *longirostris* is longer (Fig. 9) with dorsolaterally directed tubercles (Figs. 10, 11), and the spiculae are somewhat larger with the dorsal one broadly curved with a recurved apex (Figs. 12, 13). The parameres of both species are quite similar (Figs. 6, 7 for *americana*, Figs. 14, 15 for *longirostris*). We have included a dorsal habitus of both sexes and the nymph (Figs. 16–18). On the basis of the sunken vertex *americana* is placed in the subgenus *Acetropis* of Wagner (1962).

No species of *Acetropis* are known from the eastern Palearctic Region. While there is a possibility that *Acetropis americana* does represent an introduction of a species not yet known from the Palearctic Region, this seems unlikely. Dr. I. M. Kerzhner, Zoological Institute, Leningrad, Soviet Union, has examined specimens of *americana* for us, and concurs that this species is not conspecific with *longirostris*, and that the genus *Acetropis* does not occur in central or eastern Asia.

The exclusive occurrence of *americana* in Finley Wildlife Refuge and Jackson-Frazier Wetlands indicates that this mirid is a bona fide native species. The relative rarity of *americana* only reflects the scarcity of undisturbed, wet native grasslands in the Willamette Valley of western Oregon. When positive host and/or habitat requirements have been determined, the question may be resolved. Further, *americana* might be taken in southwestern Washington if suitable sites could be located.



Figs. 1-15. 1-7. *Acetropis americana*. 8-15. *Acetropis longirostris*. 1, 8. Anterior valvulae of ♀, lateral view. 2, 9. Genital capsule of ♂, dorsal view. 3, 10. Left genital tubercle, lateral view. 4, 11. Right genital tubercle, lateral view. 5, 12, 13. Spicula of vesica, lateral view. 6, 14. Left paramere, lateral view. 7, 15. Right paramere, lateral view.

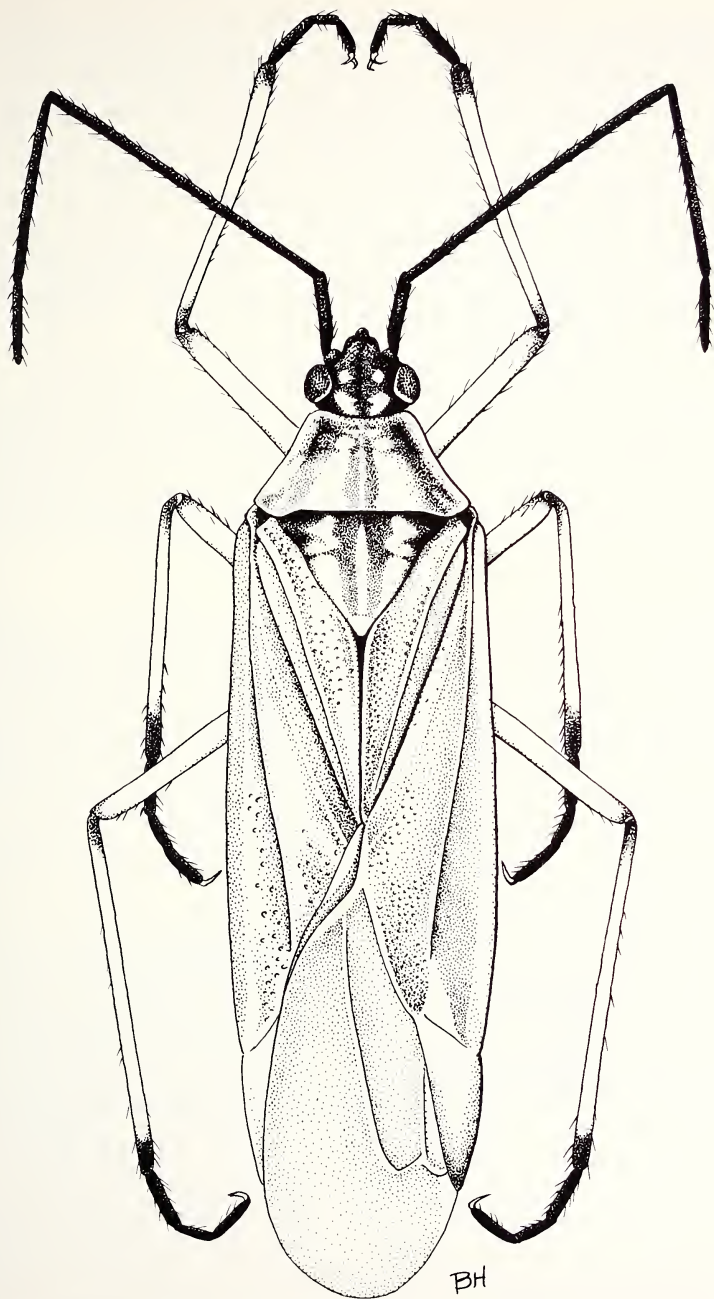
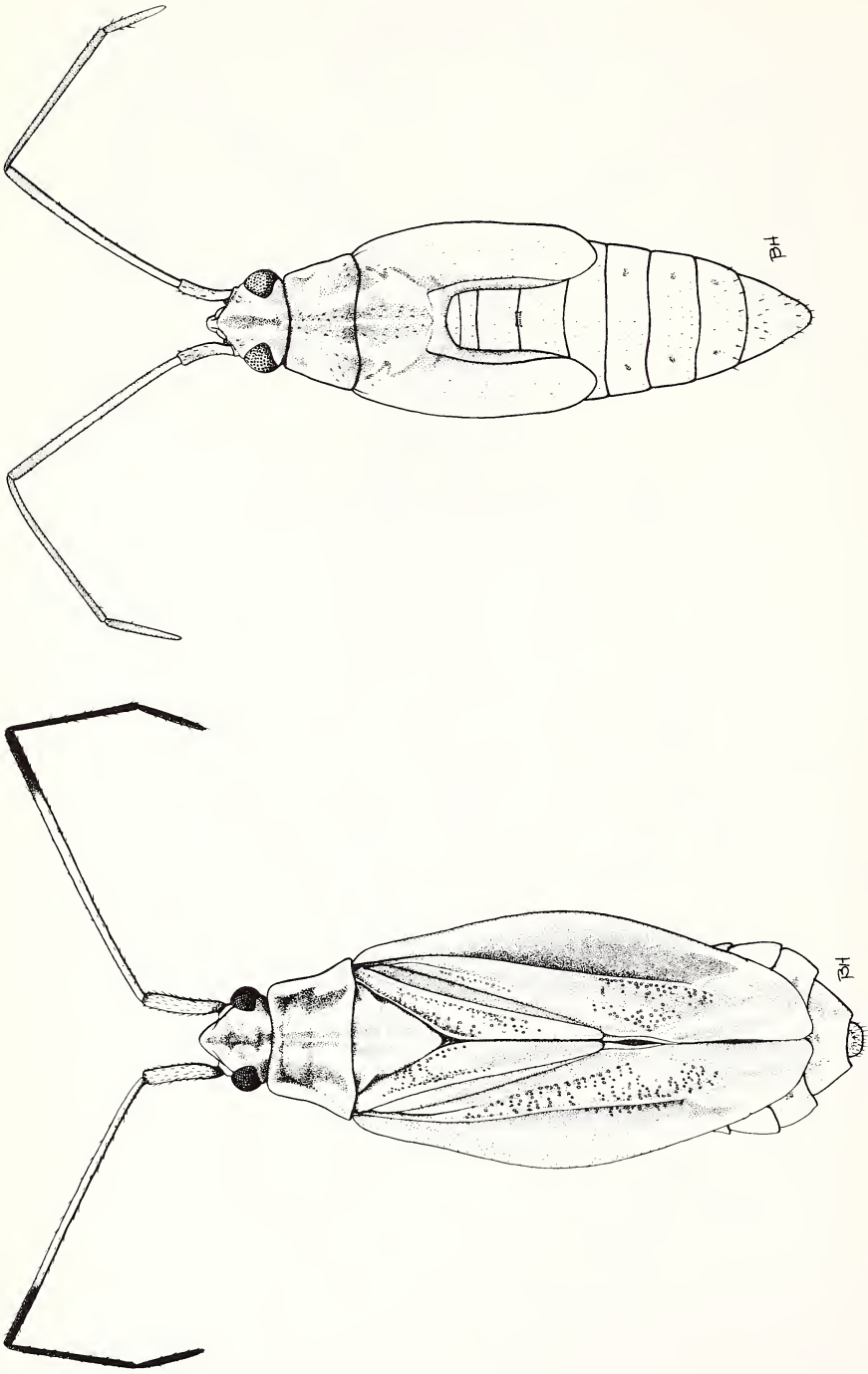


Fig. 16. Dorsal habitus of adult ♂ *Acetropis americana*.



Figs. 17, 18. Dorsal habitus of *Acetropis americana*. 17. Adult ♀. 18. Nymph.

Specimens examined. OREGON. Benton Co., Corvallis: May 24, 1946, V. D. Roth, ♂ (OSU); study site, May 28, 1972, C. A. Musgrave, ex poplar, 2♂♂ (OSU); May 30, 1912, 1♂ (USNM); June 16, 1959, J. D. Lattin, 1♂, 1♀ (OSU); June 26, 1926, C. J. Drake, 1♀ allotype and 2♀♀ paratypes (USNM); July, A. C. Burrill, 1♂ holotype and 1♂ paratype (USNM). Finley Wildlife Refuge, May 21, 1977, J. D. Lattin, 4th and 5th instar nymphs (OSU); May 29, 1977, B. Searles, 4th and 5th instar nymphs (OSU); June 9, 1976, W. N. Mathis, 1♂ (OSU); June 21, 1977, B. Searles, ex grass, 1♂, 5♀♀ (OSU); June 27, 1977, G. Eulenson, ex grass, 2♀♀ (OSU). Jackson-Frazier Wetlands (NE Corvallis), June 7, 1985, J. D. Lattin, ex grasses, 1♂ (OSU). Yamhill Co., Yamhill River, McMinnville, May 30, 1958, K. Fender, 2♀♀ (OSU).

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